

# STATE

## INDUSTRIES OF THE FUTURE



### SUCCESS STORY

#### KENTUCKY

##### STATE BENEFITS

- Increased energy efficiency through a broad partnership base.
- Enhanced economic development through growth of industry.
- Improved environmental performance.
- Enhanced ability to compete for natural resources.

##### FOCUS INDUSTRIES

Agriculture/Bioproducts

Aluminum

Chemicals

Forest Products

Metal Casting

Mining

Steel

##### PARTICIPATING ORGANIZATIONS

Univ. of Kentucky, Center for Aluminum Technology

Kentucky Division of Energy

Secat, Incorporated

Kentucky Pollution Prevention Center at University of Louisville

University of Kentucky, Center for Robotics and Manufacturing Systems

Kentucky Wood Products Competitiveness Council

University of Kentucky, Mining Engineering Department

Rubbertown Chemical Industries Group

### THE INDUSTRIAL TECHNOLOGIES PROGRAM INVESTED \$9.7 MILLION IN KENTUCKY IN FISCAL YEARS 1999-2002

The Office of Energy Efficiency and Renewable Energy's Industrial Technologies program is working with partners from the Commonwealth of Kentucky to develop the Kentucky Industries of the Future (KY-IOF). The initiative brings together members of industry, government, and academia in Kentucky to increase industrial energy efficiency and productivity, and reduce waste.

Initial goals of the KY-IOF are to develop economic profiles for seven industries, establish a network of key industry representatives and research personnel, hold workshops to identify shared technical problems, develop state-level technology roadmaps, and disseminate information on energy-saving programs, technologies, and processes.

#### STRATEGY

Kentucky's strategy is to meet with groups to establish a network of industry representatives. The initiative is also holding roadmapping workshops/meetings for the chemicals, forest products, and mining industries.

#### IOFs REPRESENT 20% OF KY MANUFACTURING

INDUSTRIES	EMPLOYEES	AVG. EMPLOYEE INCOME - 1999	VALUE ADDED (\$MILLIONS)
PETROLEUM	1,410	58,346	433
ALUMINUM	10,715	39,268	683
CHEMICALS	13,724	47,464	3,614
FOREST PRODUCTS*	27,435	25,963	1,390
GLASS	3,416	35,530	431
METAL CASTING	7,636	31,634	624
STEEL	4,387	45,076	723
TOTAL IOF**	68,723	-	7,898
MANUFACTURING	288,668	-	40,555

\*1997 data

\*\*Employment and Value Added Totals of IOF industries do not include the mining and agriculture sectors.

Source: Economic Status of Industries of the Future in Kentucky  
December 2001, University of Kentucky Center for Business and Economic Research

## PROJECTS

Secat has been successful at mobilizing the resources available to the aluminum industry. Through the Kentucky IOF strategy, Secat has helped companies in the state to obtain federal IOF funding for the following projects:

- A summary of the economic status of KY-IOF industries.
- An aluminum technology roadmap.
- R&D projects including:
  - Genetically Engineered Organism for Accelerated Ethanol Production
  - Modeling and Optimization of Direct Chill Casting to Reduce Ingot Cracking
  - Improving Energy Efficiency in Aluminum Melting
  - Reduction of Oxidative Melt Loss of Aluminum and its Alloys
  - Evaluation, Characterization of In-Line Annealed Continuous Cast Aluminum Sheet
  - Premium Fuel Production from Mining and Timber Waste.

## LEVERAGING OPPORTUNITIES

In addition to activities funded through SEP Special Projects grants, a number of activities/funding/relationships have emerged as a result of the State IOF. For example, using the initial SEP Special Projects grant as evidence of federal support, Secat, Inc. received approximately \$6 million from industry and state economic development agencies to build a research facility at the University of Kentucky's Coldstream Research Center in Lexington. Other benefits have included:

- Over \$15 million worth of focused R&D projects, including four focused aluminum R&D projects to reduce materials and energy losses.
- Initial contacts with automotive companies regarding a possible "Automotive-Aluminum Alliance" that could reduce automobile weight and improve efficiency.
- Higher profile of the Industries of the Future among Kentucky's leaders and economic development officials.

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